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Installation of large windows with truck

Pre-conditions

Preparation

Self-inspection

Execution

This **work instruction** is designed for use in detailed planning and preparation of work on construction projects. With thorough planning high levels of personal safety and optimal work apportionment can be achieved at the same time as the work can be organized efficiently and cost effectively.

Work activity & Problem	P	C	Risk= P*C	Action
Overloading, stretching	10	70	700	Use the transport and lifting devices for windows
Crane work with windows, crushing injuries	30	5	150	Education in crane routing / strapping
Cluttered workplace =Twisting or fall injuries	10	15	150	Regular tidying
Pinching, windows tip	1	70	70	

		Assessment of probability		**Assessment of consequences**		
Probability = P	P = 0,1	Very unlikely	(<1 times/10 years)	C=0,5	Trifle	
Consequence = C	P = 1	Unlikely	(1 times/10 years)	C=1	Tiny	(1 - 2 days sick leave)
Risk = P * C	P = 3	Low probability	(1 times/3 years)	C=5	Small	(3 - 7 days sick leave)
	P = 10	Relative probability	(1 times/year)	C=15	Tactile	(8 - 29 - ” -)
	P = 30	Probable	(1 times/month)	C=70	Severe	(30-299 - ” -)
				C=500	Very severe	(>300 - ” -)

Access routes § 63

Text from the Working Environment Authority's brochure Safer Construction Work

For each location where work is performed, there must be a safe access route e.g. stairway or covered gangway. A ladder is usually not considered suitable as an access route.

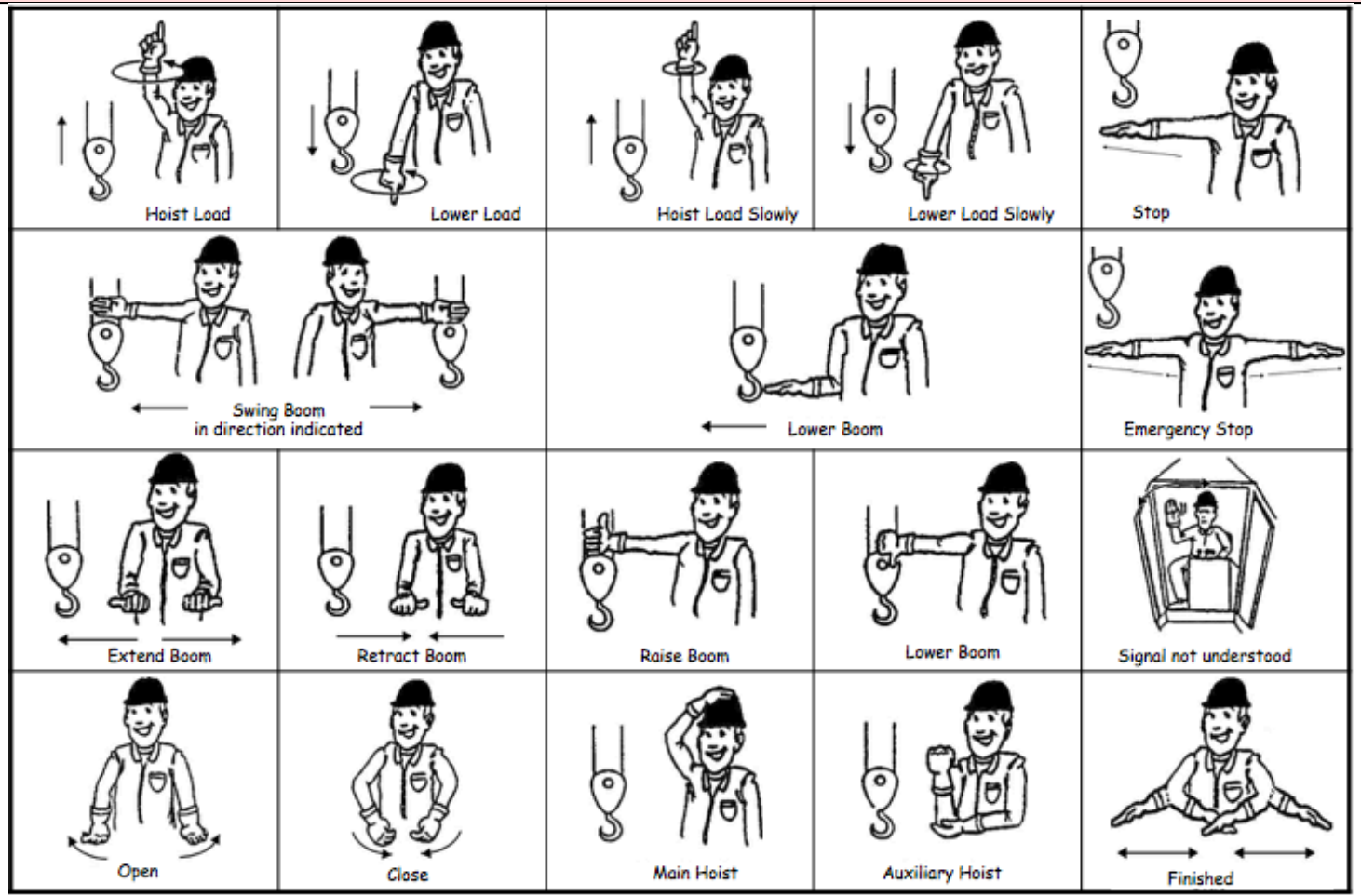
Access and transportation § 38 - 41 and 53

Between the various levels will normally be stair or ramp.
If the level difference between the two levels is more than ten meters, and this means that workers have to walk a lot up and down stairs access to a lift shall be made available.

Transport up to or down from levels more than two meters above ground level or equivalent shall be carried out in such a way that the guardrail or other protective device does not need to be removed.

If this is not possible, transport shall instead be performed using intake bridges, cargo openings in facades, specially designatedramps or specially arranged transport. On the intake bridges there shall normally be a gate or barrier. It is only in certain specified exceptional cases that a guardrail or other protective installations may be removed during such transportations.
The Regulations contain detailed provisions for these eventualities.

(See also AFS 2008:13, Appendix 3)



Preparation 1(4)

Equipment and machinery

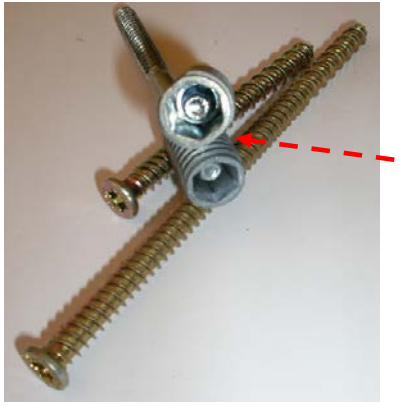
- ☐ Trolley for windows and, possibly, a window lift
- ☐ Screwdrivers and possibly drill

  Note: Cord feeding machines should be used for frame bolts and concrete drilling

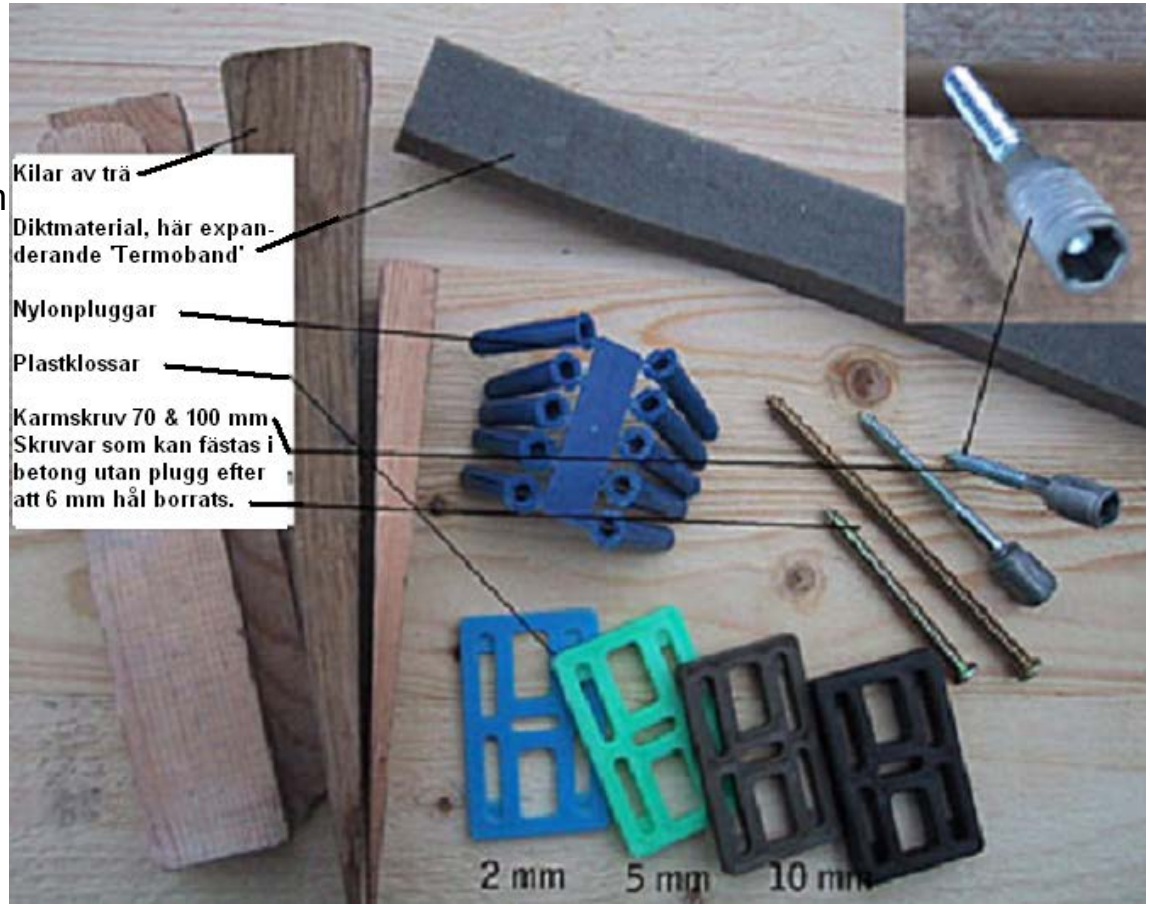
- ☐ Crowbar and screwdriver
- ☐ Concrete drill 6 mm, for fixtures into concrete
- ☐ Spirit levels, both long and short
- ☐ **Spärrnyckel för Adjufix-hylsor**
- ☐ Universal Key for frame screws - Two 6-point keys in one tool kit
- ☐ *Possibly* – Rulers for measuring diagonal measurements
- ☐ Jointing gun

Preparation 2(4)
Materials

- ☐ Window
- ☐ Pallet distance pieces eg of plastic: 2, 5 and 10 mm
- ☐ Installation wood wedges 8 pcs
- ☐ *Possibly* - Waterproof paper/foil
- ☐ Fasteners: frame bolts and possibly nylon plugs
- ☐ Caulking Materials in roll
- ☐ Sealant in tube
- ☐ External wooden strip
- ☐ Cover plugs, supplied with window
- ☐ *Possibly* - Cill plate and nails



Frame bolts 70 and 100 mm with internal 10mm sextagonal for frame unit and outer 5 mm of the screw



Control of the quantities and availability

Upon delivery to the construction site it should be checked to see if there is any shipping damage and that it is the right windows in the correct quantities have been delivered-

Faults and defects shall be noted on the consignment note and the carrier and window supplier notified.

Demands when AMA Hus is used in specifications

Transport, storage and handling

Glazed windows and doors must be transported and stored in the same position as they are be mounted, ie with the bottom piece and the threshold down. Alternatively, the transport and storage may take place in another position if the goods are fitted with transit bolts inserted between frame and sash and between frame and door leaf.

Must be **stored** flat, dry, well-ventilated and weather-protected location.

Fittings supplied separately shall be stored indoors.
Windows and doors should not during any part of the construction period be subjected to a moisture load above the normal moisture load to be experienced during the use of the product.

Manufacturer's instructions for transport, storage and installation shall be followed.

Request windows with screwed struts so that they can be removed one at a time out of the crate.

Storage

Windows shall be stored upright on a level surface in a dry and well-ventilated place.

Outdoors

If storage must take place outside then it may be only for a short time and under tarpaulin.

A space of 20 cm shall be allowed below the podium for ventilation.

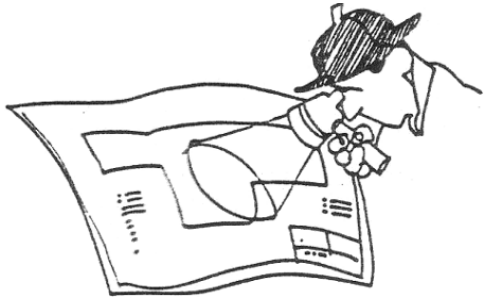
No	Check	Method or equipment	Frequency	Result	Date Signature	Deviation/Remedy Approval/Non-A
1	A plumb assembly					
2	Fixing brackets					
3	Function					
4	Strips, inside and out					
5	Seal, bow/blade/frame					
6	Child security					
7	Lock					
8	Other fittings					
9	Caulking					

Note:

Installation in the warm part of the wall
Drain over window
The correct kind of fixings. Adjustable is good
Right kind of caulking material for fire and sound requirements
Nailing of lining up c/c 300 mm

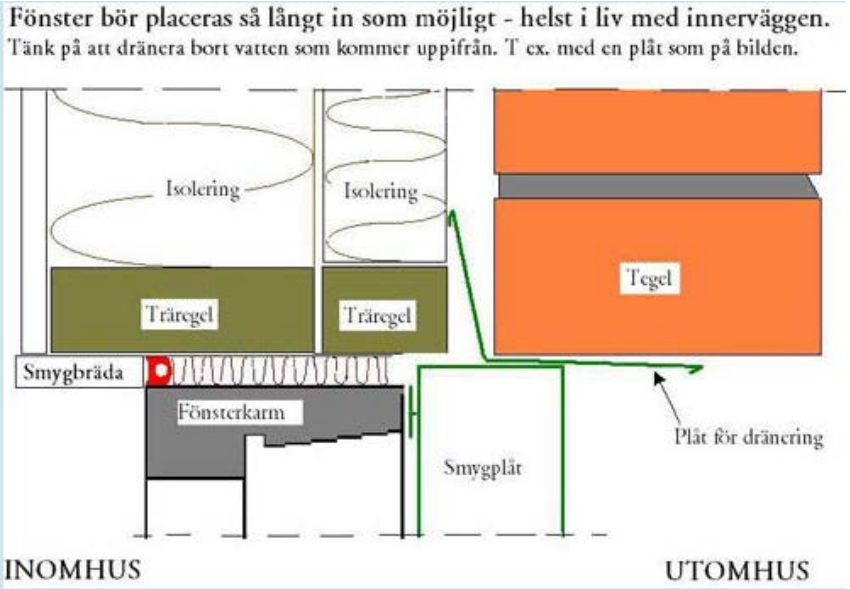
Quality criteria for the project and the product

- Study Drawings, Specifications and Inspection planning
- Think through the alternative **methods of production** and handling of materials, tools etc. that can meet the requirements



Pay particular attention to

- Attach the window as shown in the Specification and in accordance with the Manufacturer's instructions.
- Check the marking on the windows - so they end up in the right place
- Do not mount damaged windows



Placing in the wall

Windows should be placed in the warmest part of the wall, preferably as close to the inside wall surface as possible. According SNIRI's recommendations the retracted position is best.

Some placements require special devices
- mounting iron or the like. Make sure to order in time

Demountable casements

Raise the sash and install them. Protect.

A Window-holder

Use a 'window-holder' which holds the window in place until it is screwed into place.

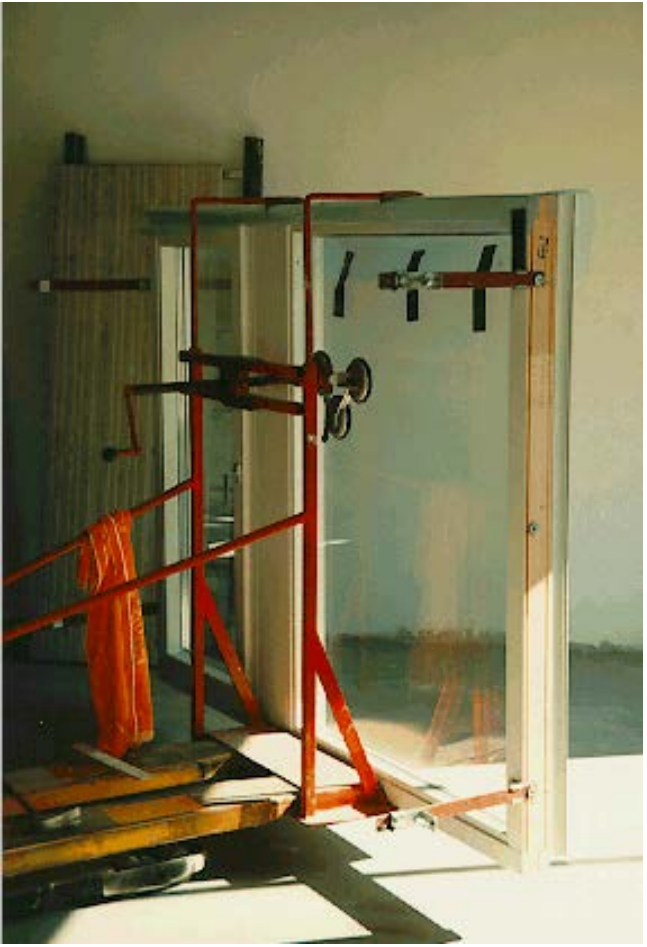
Window recesses of concrete shall be cleaned.
Plastic distance pieces mounted and adjusted.
Note:
Blocks must be of materials which do not absorb moisture.

A window is lifted and placed near to the vacuum pads. Vacuum/suction pads are placed on the glass and to hold it firmly.

Special window-holder

Four window holders which shall keep the window at the right depth in the window recess are mounted
on frame screws.
Window holders also prevents the window from falling out by using an 'angle' on the inside.

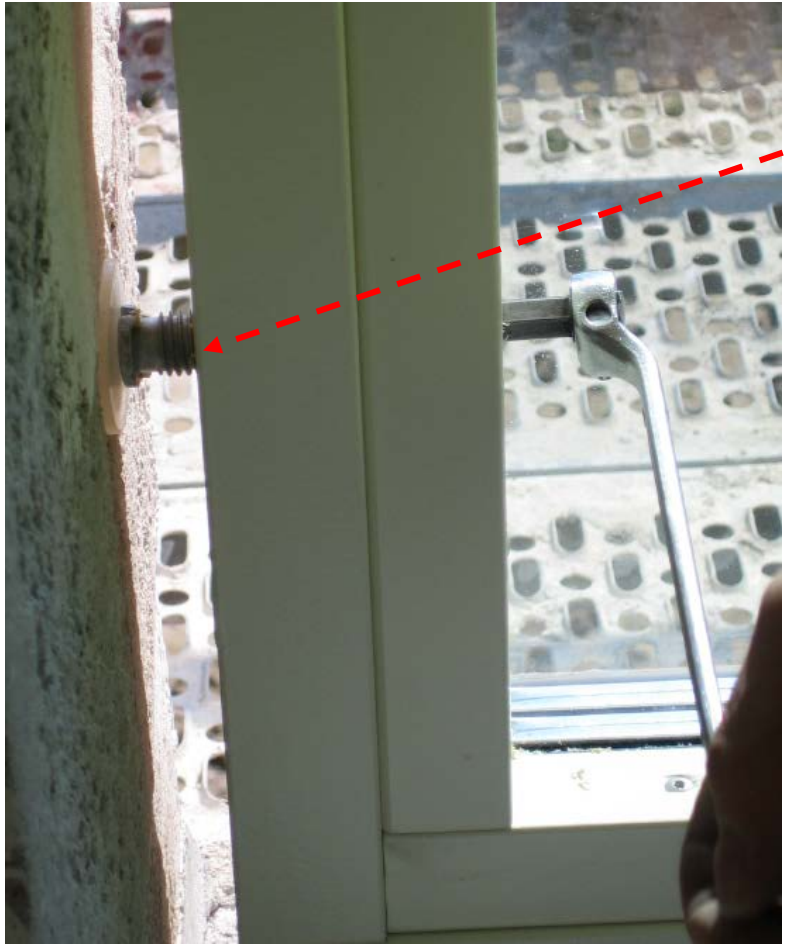
Note – the plastic on the windows is taped and may be left for protection.



A window with four holders is ready for assembly. It is placed in the window lining and hoisted into place.

The window is in place - now it should be fixed into position.

Through the sockets are drilled holes in the concrete, screws are inserted and tightened.



Fastening on concrete walls

Adjufix sockets are mounted in the frames holes.
Pressure distribution pieces snap on to them before
the window is lifted into place.

Finally:
Control of line and plumb for the window.